

PROJECT NUMBER : 6503
PROJECT TITLE : Chemical Analysis
PROJECT LEADER : B. M. Handy
PERIOD COVERED : July, 1991

I. PROJECT TOMORROW

- A. **Objective:** Support R&D efforts to measure and modify ignition propensity of cigarettes.
- B. **Results:** Fabric samples, containing the burn promoter potassium acetate, supplied by RJR for the CORESTA Collaborative Study were analyzed for potassium by ICP. Analysis of a second group of fabric samples is currently in progress. Banded papers from June 1991 Beloit trials were analyzed for propyl paraben to determine the level of cellulon addition. Laboratory prepared sheets of applied cellulon similarly were analyzed to determine applicability of method.
- C. **Plans:** Complete ICP analysis of fabric samples. Continue support as needed.

II. CAST LEAF RCB PROCESS

- A. **Objective:** Support R&D studies to determine chemical basis of RCB Darkening.
- B. **Results:** Samples of RCB, unheated control and heated and self-heated test samples, were analyzed for acetic, formic, citric, lactic, malic and oxalic acids, chlorogenic acid, rutin, scopoletin, fructose, glucose, sucrose, soluble ammonia, nitrate nitrogen, calcium, phosphorus, pH and OV. Investigation of ion chromatography to determine gluconic acid in RCB is currently in progress.
- C. **Plans:** Continue analytical support for RCB Darkening Study.

III. PRIMARY IMPROVEMENT

- A. **Objective:** Support engineering efforts, Primary Improvement Program, in improving the uniformity of burley spray application by use of a Sagemuller Steam Tunnel.
- B. **Results:** Sieve fractions of strip and lamina passed through a Sagemuller Steam Tunnel installed prior to Burley Spray Cylinder were analyzed for alkaloids, reducing sugars, fructose, glucose, and sucrose to determine the levels of burley spray on the tobacco as a function of particle size.
- C. **Plans:** Continue to support engineering efforts to improve uniformity of burley spray application.